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PARACENTISIS THORACIS.

The recent references to this operation by Major Martin and Mr. Guy Sutton may possibly initiate something like a revolution in our general treatment of chest diseases. Speaking broadly, our profession's record with regard to paracentesis thoracis is not quite a creditable one. It has been classical teaching for a long time that the withdrawal of pleuritic effusions is more likely to be successful if practised early than if delayed. But men in practice, when they have punctured at all, have not usually done so until very late. Many an experienced clinician has only tapped the chest two or three times in his life, has done so almost as a last resort, and, having regularly failed, condemns the operation. There is no doubt that practitioners generally distrust puncture of the thorax; but it is possible that most of them do so through never having practised it at the right time. We could all name operations of recognised value that were once undeservedly condemned for the same reason—that they were seldom practised until too late.

Major Martin's results from the routine puncture of the chest in in all cases "directly the breathing is really distressed" are highly encouraging. When fluid has been found, the upshot has been uniformly successful; when it has not, no ill effects have been traceable to the puncture. But it will be noticed that Major Martin's initial puncture has always been a diagnostic one; he has not waited for clinical indications of the presence of fluid. He punctures on the chance that fluid may be present, with the certainty of doing no harm if it is not; and most men will agree that this early puncture is the only method of ensuring a really early withdrawal of fluid. There is a great deal to be said in favour of the procedure, and it deserves extensive trial in civil as well as military practice.

One really serious obstacle to the introduction of early tapping into private practice has already been mentioned by Mr. Guy Sutton, and will be obvious to all. In very many cases no fluid will be found, and then trouble with the client may follow. Much of this difficulty could be avoided by a little forethought. It might be necessary to exercise some discrimination in selecting the client. It would certainly be necessary to explain to the client the reasons which lead us to explore a horse's chest for fluid before a clinical examination reveals any; and this explanation should not often be difficult. It will be least difficult for the practitioner who is least addicted to making extravagant pretensions to diagnostic skill before his clients. The fact is that we ourselves, and our fathers before us, have made a great many of our present difficulties with clients by teaching them to expect omniscience from us.

AN ABNORMAL LAMB'S HEAD.

The birth of what are commonly known as "monstrosities" in the ruminants is not by any means uncommon, but in the majority of cases the abnormality consists in the possession of additional limbs, an additional complete trunk or other parts. On the other hand the suppression of a part is rather more rare, and in the case to be described the lower jaw is totally wanting.

The lamb under consideration was born naturally and at full time, and lived for about ten minutes, a further existence was impossible as will be evident from the following description.

Fig. 1, which shows the under surface of the head, will give some idea of the appearance of the part prior to dissection. There appears to be a complete absence of the lower jaw together with the tongue, but the upper jaw seems perfect except that the molar teeth approximate more nearly than usual, as can be felt through the skin. The oral cavity, reduced in size by the loss of the inferior maxilla, is covered in underneath by normal skin continuous with that of the head and tightly stretching from one maxilla to the other, except at a point corresponding to about where the commissure of the lips would have been had the lower jaw been present. From here forward an oval space is left, bounded by the edge of the upper lip in its greater part, and exposing to view the hard palate and dental pad. The superior or buccal surface of the bridge of skin appears to be lined by normal mucous membrane.

The ears have the appearance of being set on the head at a lower level than is usual, and the annular cartilage at the base of each is incomplete on its internal side, resembling, therefore, a C rather than an O. Between the breaks in the two annular cartilages there extends a narrow slit or cavity divided into two parts in its depth by a ridge, on the edge of which the skin terminates abruptly, its place being taken by mucous membrane. At a point about an inch posterior to the slit, and on the inferior surface of the neck the skin is elevated into a soft swelling.

On removing the bridge of skin stretching between the superior maxillæ, a bilobed gland is observed, partly free and in part protruding from beneath a thin, tight, transverse muscle covered with aponeurosis. This gland would appear to correspond with the submaxillary glands, and possibly the muscle may be the displaced masseters. On making a longitudinal incision in this muscle its internal surface is found to be covered with normal buccal mucous membrane continuous with that covering the crown of the molar teeth, which have

not yet penetrated it, and reflected inwards to form the floor of the mouth cavity. This cavity comes to a blind end almost immediately behind the level of the posterior molar teeth. In it there is no trace of laryngeal or œsophageal opening, and neither is the posterior nares present. Between the incurved posterior molar teeth projects backwards a small, free, fleshy finger-like body—an aborted soft palate.

The skin having been further removed the annular cartilages of the ears are found to be connected by a thin, narrow band of cartilage, about ½ of an inch wide, posterior to the opening before mentioned. The swelling on the underside of the neck now appears as a thin-walled cavity, in the interior of which the larynx can be felt, continued by a normal trachea. Its walls are evidently supported by the hyoid bones, which are found to be complete. The great cornu is, however, directed downwards and backwards from its connection by means of fibro-cartilage, with the hyoid process of the petrous temporal bone of the skull. Examination of the interior of the cavity shows it to be a sac into which the larynx and oesophagus open, but anteriorly it is blind, and only shows, instead of an opening to the external air, a small, round depression. It is lined by smooth, shiny mucous membrane, except where a small, papilla-like body, about 1-3rd of an inch in length, projects backwards towards the laryngeal orifice. Here the shiny mucous membrane is replaced by that bearing filiform papillæ, such as is seen on the normal free portion of the tongue, and this leads one to suppose that this little body is in reality an undeveloped and misplaced tongue. It can be easily inverted, and appears to be an evolution of the mucous lining of the sac, which evidently corresponds to the pharyngeal cavity.

Fig. 2 shows the skull from which the soft structures have been removed and Fig. 3 the skull of a normal newly-born lamb for comparison.

On examining the under surface of the abnormal skull it is seen to be compressed from side to side towards the central line. The molar teeth almost face inwards, and the palatine plates of the superior maxillæ are very narrow. The right palatine bone has only a narrow, flat palatine surface, the left presenting a sharp inferior ridge. Both are very much reduced in size. The pharyngeal opening of the nasal cavity is non-existent, the pterygoid bones on either side coming into close apposition, apparently because of the partial suppression of the vomer and the almost total absence of the pre-sphenoid. The body of the post-sphenoid is reduced to extremely small dimensions, if it is not entirely absent, and the bone appears to consist of the two wings which closely approximate, as do also the sub-sphenoidal processes. The basilar process of the occipital bone is much reduced in size, and presents depressions on its inferior surface for the accommodation of the petrous temporals.

The most striking abnormality is seen in connection with the petrous portion of the temporal bones. The auditory bullæ are fused together and there is no intervening cartilage. The point of union has the appearance of a thick pillar of bone, with diverging wings at its base and showing a median groove on its anterior surface. This bony partition separates two large openings, the mouths of which are directed forwards, and which correspond to the opening through the skin at the base of the ears previously mentioned. These are the two external auditory meati: from their depth the small bones of the middle ear were extracted. In the normal skull the hyoid process is situated immediately superior to the external auditory meatus of the same side (the head being held in a vertical direction and the base of the skull forward), in the skull under discussion it has a supero-external position in relation to this opening and occupies much the same position as in the normal skull, except that it is nearer to the median line of the head, and internal to the styloid process of the occipital bone. The zygomatic process of the squamous temporal bones presents no smooth surface for articulation with the condyle of the lower jaw. (The latter is absent).

The foregoing description recounts only the major departures from the normal; a more minute account would take into consideration many others.

It would seem that the suppression of the lower jaw in the fœtal lamb is not absolutely unique, as a few days after the specimen described was received another was sent me bearing precisely the same external appearances. Examination also revealed the same abnormalities, except that the undeveloped tongue was rather larger, the auditory bullæ, separated by a plate of bone, formed an arch over a single auditory meatus, or rather the two meati thrown into one, as the one cavity contained the two sets of bones of the middle ears. This fœtus also was born alive and lived for a few minutes. Examination of the body revealed no abnormality. The lungs were in a condition of fœtal atalectasis, and the trachea, œsophagus and stomach filled with clear, yellow fœtal fluid. I am told by the shepherd from whom I obtained the specimens that he remembers seeing a similar case some years ago.

E. G. Haskell.

Taunton.

AN EXPERIMENT WITH ESERINE

In reply to "Junior's" article, *re* his experience with Arecoline hydrobromide, I would like to give him an account of a case in which I tried a drug of very similar action—Eserine, in the hope that he will find it of interest. The following account is taken from a record I made of the case at the time and which I still possess.

I was called one evening to a case of impaction in a Devon steer, two-years-old, which had recently been housed and was being fattened. The day before he had been noticed to be off his feed and in pain, and had not passed any fæces for many hours. The owner had administered one pound of Mag. sulph. and a pint of Ol. lini. He had also given an enema, and back-raked the animal, obtaining a small quantity of fæces which were hard and mucous coated.

Up to the time I was called in, some twenty-seven hours later, the purgatives had not acted. The symptoms were, head extended, breathing

rapid and shallow, with groaning. The visible mucous membranes were injected, pulse 65 per minute, and weak, temperature 103°F. The rumen was not very distended, but there was slight tympany. The abdominal muscles were tense, and there was violent muscular trembling. On auscultation there was an absence of peristaltic sounds. The rectum was empty save for a little blood. I account for the presence of this blood by the fact that in giving the enema the owner inserted the unguarded nozzle of a large metal syringe into the rectum.

Treatment. First a drench containing Ammon. carb. ʒi., Nucis vom. ʒi. in water. As I had long desired to try the action of Eserine on cattle, I administered Eserine gr. i. (Parke, Davis & Co's pellets dissolved in boiled water) hypodermically. In half-an-hour the pain increased, accompanied by loud groaning and hard blowing. The steer went down, but with some assistance he was got on his legs again, and was kept standing. In forty-five minutes from the time of injection of the Eserine about a single handful of fæces, slightly firmer than normal, were passed. At the end of an hour he seemed easier and was very quiet. During that night and the next day he passed small quantities of thin fæces at intervals, and appeared quite easy but dull. A stimulant drench was administered, Turps. and Ether aa. ʒi., Ol. lini., Oj. On the third day he passed a normal lot of fæces and was not seen again. The symptoms of pain shown were rather alarming, but I have not been discouraged, and I think that a grain of pilocarpine injected first and then a somewhat smaller dose of Eserine about fifteen minutes later, would give better results.

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ABSTRACTS FROM FOREIGN JOURNALS

Epidemic Arterio-Sclerosis of the Sheep.

Dr. José Ligniéres, in 1898, published the results of his first studies of a very curious affection which is observed in the epizootic form in the cattle, horses, and sheep of certain regions in the Argentine Republic. He now publishes (*Revista Zootechnica*) his more recent researches upon it.

In cattle, the disease has been known for a long time under the name of 'entèque," a word signifying "consumption" or "decline"; and the characteristic lesion is a spongy ossification of the lung. Ligniéres, however, has demonstrated that the pulmonary lesion is not the principal one, but that there is also more or less generalised arterio-sclerosis. In the horse, the pulmonary ossification is not found; and in sheep, which are also affected with chronic arteritis, the lung lesion is usually absent. Quite recently, however, Ligniéres has found it during an epizootic of this disease affecting Lincolnshire sheep in the province of Buenos Ayres.

Symptoms.—Generally the animals appear in good condition, though some are cachectic. It is very easy to recognise the affected ones; for, if the flock is driven rather quickly, those affected lag behind, and show difficulty of respiration and agitation of the flanks.

Death may occur during rest, suddenly and sometimes without any death agony. Deaths may be produced at will by driving the affected sheep at a quick run for a certain time.

Post-mortem lesions.—There is rapidly occurring tympany of the carcase, as in anthrax. Dark patches are found under the skin. The serous cavities often contain a clear citron or a reddish fluid. Congestion of the liver, spleen, and kidneys is frequent. The lungs are infiltrated, œdematous, congested, and hepatised in various places; and, when they are palpated, it is sometimes possible to feel hard needle-shaped bodies which break easily and represent the lesions of spongy ossification of the lung. The aorta is hard and thickened, with lesions of arterio-sclerosis, sometimes very highly developed, at its base. These lesions explain the deaths occasioned by violent and prolonged movements.

The disease especially attacks adult animals, has a duration of months, and is particularly mortal during the winter. Ligniéres saw 700 out of 6000 sheep die between May and October, 1910.

In the numerous cases he has observed, Ligniéres has undertaken bacteriological researches and made many experimental inoculations, but without result. Dr. Frédéric Sivori has attributed the disease to the agency of the bacillus of Preisz-Nocard. Ligniéres, however, finds that this bacillus is not constant in the lesions; in five cases which were particularly well observed, it was absent. He therefore regards Sivori's view as erroneous,

From his numerous observations, Ligniéres concludes that "entèque," the symptoms and course of which are well known, is caused by a germ not yet determined; but the condition may be regarded as a microbial disease of intestinal origin.—(*Annales de Méd. Vét.*)

Cutaneous Sarcosporidiosis in a Cow.

It is admitted that the sarcosporidia most frequently cause no trouble to their hosts, and, even when infestation is massive, are merely post-mortem findings. No example of parasitism of the skin by these protozoa exists in the literature. Besnoit and Robin, however, now record (*Revue Vétérinaire*) a case of cutaneous disease due to a species of *Sarcocystis* which they studied in a cow.

The cow was ten years old, and had been delivered to the Toulouse Veterinary School to serve for the practice of surgery. Except that the animal was only moderately nourished, her general condition was satisfactory; but partial depilations, in the region of which the skin was thickened, were noticeable upon the superior portions of the body. The udder was very small and shrivelled, the skin covering it was thickened and sclerosed, and the

teats appeared "soldered together" in lateral pairs. Irregular "embossments," variable in volume, and generally separated by crevices, were found upon the surface of the organ. The skin upon these nodosities was sometimes pink and normal, sometimes covered with whitish mealy scales. A considerable portion of all four limbs, the dewlap, the head (especially the forehead) and the ilial and ischial points showed analagous cutaneous lesions.

As these symptoms resembled no classically described affection, it was decided to remove some fragments of skin for histological examination. This showed incontestably that a parasite belonging to the group of *Sporozoa* was present in the lesions. The bodies observed under the microscope were spherical or slightly elongated, and were formed of an external envelope or cuticle surrounding a central mass of granular aspect, which was constituted of an enormous quantity of falciform or reniform spores. This structure corresponds to that of the group of sarcosporidia, and the authors therefore class the parasite with the genus *Sarcocystis*.

The authors have unsuccessfully attempted to infect various species of animals. In the cow, subcutaneous inoculations, inoculation by scarification, insertion under the skin, dermo-epidermic grafting, and injection into the udder have all failed. Attempts to infect laboratory animals (rabbit, white rat, and white mice) by the digestive tract have also yielded negative results.

The authors have found that a glycerine extract, obtained by crushing fragments of the lesions in glycerine, has toxic properties. It is rapidly fatal to the rabbit, but the guinea-pig and the white rat, on the other hand, support massive injections without injury.

The negative result of the attempts at infection renders it impossible to determine the origin of this disease.—(*Annales de Méd. Vét.*)

W. R. C.

THE METHODS BY WHICH SOME OF THE HIGHER ANIMAL PARASITES PRODUCE THEIR INJURIOUS EFFECTS.*

By A. W. Noël, Pillers, F.R.C.V.S., F.Z.S.

Although we have long since passed the days when ento or ectozoa were regarded as being beneficial to their hosts, we have not in many cases given sufficient attention to the exact methods whereby their injurious effects have been produced. Research in this direction is very desirable, because, apart from being of academic value, it must lead us into some useful channels of immediate prophylaxis. So far as the worms affecting man are concerned, Shipley and Fearnsides (1) have grouped their injurious effects under four headings; to to these we may add a fifth. They are as follows:—

1. Injury caused by the mere presence of the parasite.
2. Injury caused by the migration of the parasite.
3. Injury caused by the parasite feeding upon the tissues or "juices" of the host.
4. Injury caused by toxins said to be eliminated by the parasite.
5. Injury due to the transmission of disease producing micro-organisms by the parasite.

When considered from the point of view of the method whereby the parasite produces its injurious effects, it must necessarily follow that some of the parasites will fall into more than one of the groups. Thus the mere presence of the adult flies of *Hypoderma bovis* causes a fall in the milk supply of animals it has been trying to alight upon, as well as œdema and perforation of the skin of the back when its larval form is about to complete its migration through the affected animal's body. However, I think the subject can be better appreciated under these five headings than by considering the parasites individually.

Injuries Caused by the Mere Presence of the Parasites.

Although the ectozoa form such an important group of obnoxious parasites, when their injurious effects are carefully looked into, they will in many cases be seen to fall into one or other of the remaining headings. This is so with the three groups of mange mites. But the mere presence of any of the flies from which animals have learnt to escape tends to produce stampedes which may lessen the milk supply in cattle, or cause accidents in beasts of burden.

The presence of the adult form of *Linguatula tænioides* in the nasal fossæ of the dog causes reflex sneezing, and by its irritation the secretions of the mucous membrane are increased. Cobbold (2) explained the death of a dog which went out in the cold air by the migration of these parasites lower down the respiratory tract. The larval stages of *Oestrus ovis* when producing symptoms act in a similar way.

In the horse, calf, and pig, large numbers of adult worms block many of the larger bronchioles, and so by their mere presence give rise to collapse of the lung tissue supplied by that vessel. Other effects are witnessed, but I have seen pigs infested with *Metastrongylus apri* (*Strongylus paradoxus* in part) to such a degree that a great part of each lung was non-functional. I have recorded a somewhat similar case of an ass affected with *Dictyocaulus arnfieldi* (*Strongylus arnfieldi*) (3) Perhaps a better example still is *Syngamus trachealis* of the fowl's respiratory tract. Generally speaking, amongst the round, flat, and tape worms, the the extent of injury produced depends upon the position in the body that they take up; the anatomical characters of the parasites cannot however be neglected. The larval stage of *Multiceps multiceps* (*Coenurus cerebralis*) in the brain of the sheep causes profound trouble by pressure as it increases in size, whereas a very similar hydatid *Multiceps serialis* (*Coenurus serialis*) in the sub-cutaneous or inter-muscular tissue of the rabbit's back gives rise to insignificant changes.

In the muscular tissue of the pig *Cysticercus cellulosæ* seems to produce little or no trouble. In the eye, however, the effect is naturally more serious. *Echinococcus* cysts when small and only two or three in number produce very few changes, but great loss of tissue and increase of weight are seen when the infestation of the liver or lungs is a bad one. The presence of *Filaria immitis* interlaced among the chordæ tendineæ of the dog's heart causes dyspnœa, convulsions, and sudden death, from its mechanical interference with the circulation. The arrestation of *Dioctophyme renale* (*Eustrongylus gigas*) in a kidney is sufficient to lead to the destruction of that organ with consequent hypertrophy of the other one. *Echinorhynchus gigas*, a rare nematode of the pig's small bowel in this country, in its attempts to secure itself, often perforates the bowel wall, with such results as to render the "skins" useless for sausage manufacture.

* Presented at the Midland Counties Veterinary Medical Association at Birmingham, on Feb. 14th.

Generally speaking, the mere position of nematodes and cestodes in the alimentary canal does not give rise in itself to important troubles. Yet *Ascaris* in the various animals has produced mechanical impaction, and Descomps (4) recorded a case where 15 litres of *Ascaris vitulorum* caused rupture of the bowel. Other cases of a similar nature have from time to time been recorded.

Injuries Caused by the Migration of the Parasite.

The damage done by parasitic species under this heading, so far as the veterinarian is concerned, is very important. The migration may be a natural one, such as the passage of an immature *Cysticercus tenuicollis* through the liver on its way to the abdominal cavity, or an unnatural one, as, for example, the journeying of bots of *Gastrophilus* through the horse's brain. The "flitting" may be further more unnatural, such as the passage of adult species of *Ascaris* or *Taenia* into the abdominal cavity. The wanderings have to be considered apart from the micro-organisms which they may convey, because that is dealt with under the fifth section of the paper. Among cattle, *Hypoderma bovis* just before it leaves its host produces an œdema of the subcutaneous tissue of the back, rendering it unmarketable, and "licked" in the meat inspectors' phraseology, and the hole in the hide produced for the warble's exit greatly lowers the value of the hide. One might be inclined to think that farmers would take action against this fly. During the migration of *Trichinella spiralis* through the muscles of man there is severe pain accompanied by fever, and these phenomena must be experienced by the lower animals. There is observed in India an intra-ocular filariasis of the horse. The disturbances in vision are due to the movements of an immature worm in the aqueous humour, and which is believed to be a stage in the life cycle of *Filaria equi*.

The arrest of immature forms of *Strongylus vulgaris* (*Strongylus armatus* in part) at their "predilection seats" in important arteries supplying the large bowel leads to endarteritis, thrombosis and the formation of an aneurism. Although the walls of these aneurisms are thick they have been recorded as rupturing (5), and works have been written to describe the colics resulting from embolism, due to the disintegration of the primary thrombus in the affected artery (6).

It appears possible that a fresh reading up of the blood supply to the bowels, together with the pathology of verminous aneurism would do none of us any harm. *Oxyuris mastigodes* can often be seen after it has migrated to the anus, where it causes much irritation evinced by uneasiness, stamping, swishing, rubbing and flapping of the tail, leading to the crushing of the female and dispersal of the eggs (7), a state of affairs eminently satisfactory for the completion of the life cycle of this species. *Trichuris ovis* (*Trichocephalus affinis*) of ruminants is usually stated to be more or less harmless, but the depth to which its head may penetrate the cæcal walls suggests that it is possible for organisms to gain access to the peritoneum. This accusation has already been made by Metschnikoff (8) against *Trichuris* of man in the etiology of some cases of appendicitis. In the bowel of American sheep one often comes across lesions due to immature forms of *Oesophagostomum columbianum*. Bowels so affected are usually known as "pimply-guts," and are useless. The immature worm enters by the mucous coat and remains in the bowel wall until lesions the size of nuts are produced.

The worms may go further and become encysted in the mesenteric lymphatic glands, these are thereby weakened, and the bowel is rendered more liable to bacterial invasion. Immature forms of the various species of *Cylicostomum* (*Strongylus tetracanthus*) encysted in the bowel wall of the horse are responsible for somewhat similar state, of which we often hear in the course of country practice. We have examples of the wandering of adult worms in *Ascaris*. The species of the pig has often been recorded, and blamed for causing death by leaving the small bowel, travelling into the liver, and rupturing its capsule (9).

Among cestodes it is quite common to find rabbit tapeworms piercing the bowel wall, the head being in the peritoneal cavity, and the hole tightly filled by the middle portion of the strobile. I believe the first running rabbit that I shot was so affected, and this was given as a cause of the animal's slowness. Similar perforation cases have been recorded with regard to *Taenia serrata* of the dog, by Cadéac and Lahogue (10). As an example of an abnormal migration the presence of larval *Oestridae* in the brain may be mentioned. *Gastrophilus* larvæ have been recorded from this position on several occasions, the symptoms being those of erratic movements, with death in about four days, or of an acute apoplectic and fatal type (11). Numerous other cases of migration could be mentioned under this section.

Injury Caused by the Parasite Feeding Upon the Tissues or Juices of the Host.

The tendency in the past has been perhaps inclined to over-estimate the damage done in this direction by parasitic species. This, however, does not mean that little or no importance should be attached to it. Although we often describe cases of mange as being "eaten alive" it is doubtful whether we ought to discuss the mange mites here. Lice belonging to genus *Hæmatopinus* certainly do suck blood, and in the case of severe infestations, such as we see on the horse and pig, the amount of blood taken daily must be considerable—in addition to the demand for more, which increases in a geometrical ratio. To this must be added the irritant action of the biting. Remarks of a similar kind may be made with reference to the blood sucking flies, and leeches. A veritable case of being eaten alive is the consumption of the flesh of the sheep by the larvæ of the "Green bottle blow fly" (*Lucilia sericata*). With regard to the entozoa, common observation has it that worms call forth an increase in the appetite, and it is suggested that this increase in many cases makes up for the loss of food which has been assimilated by the parasite. If we estimate that a female *Ascaris megalocephala* is capable of producing just between 1½ and 2 ozs. of eggs in a year, and take into consideration the great numbers of these worms which a horse may harbour, then we must admit that a certain amount of the animal's ingesta has been used up to produce them, in addition to that required for the worm's vital processes. I have found females of this species weighing just under 4 drms. Delamotte (12) found 1215 specimens which weighed just over seven pounds in one animal.

In bad infestations of lambs by *Moniezia expansa* (*Taenia expansa*) one does not like to pass over lightly the possible loss to the host of ingesta taken up by the parasite by cutaneous osmosis. The adult worm is often 9-12 feet long, a great number may be present, and these are daily giving off segments. In old animals intestinal nematodes do not produce so grave symptoms as they do in young ones. Infections by the various species of *Strongylus* and *Cylicostomum* of the horse are examples, but there are factors other than the loss of food to a growing animal to be considered here. In parasitic gastro-enteritis of ruminants there may be great numbers of *Trichostrongylus*, *Ostertagia* or *Haemonchus* present but all the symptoms cannot be attributed to materials extracted from the aliment or bowel wall.

There yet remains much work to be done on the subject of the food of many of the intestinal worms. Looss (13) has already shewn that, contrary to the generally accepted doctrine, *Anchylostomum duodenale* feeds on cells of the mucous membrane of the bowel, and that the ingestion of blood is accidental, The removal of the superficial cells and wounding of the mucous membrane is possibly one of the most harmful effects of helminthiasis, be it of trematode, cestode, or nematode origin, and will be dealt with later on. Other species could be mentioned under this heading, but enough has been said to shew that it is not altogether negligible.

Injuries Caused by Toxins Said to be Eliminated by the Parasite.

With the rise of bacteriology, and so much work on bacteria and their toxins, it is unnatural that this line of thought should be developed in connection with the higher animal parasites. It has to be remembered that the toxins elaborated by certain bacteria are complex chemical bodies, and that no special parts have been described as making them ; and although we use terms such a "manufacture" we cannot see where they are made.

Among the ectozoa, the pruritus caused by the mange mites is attributed to substances they produce. The sarcopt of man (*Sarcoptes scabiei hominis*) is not felt even when it burrows. Bourguignon (14) produced a vesicular eruption by inoculating the skin with fluid derived from acari. Gerlach (15) classed the severity of the mange mite toxins in the following order :—

(1) *Psoroptes.* (2) *Sarcoptes.* (3) *Chorioptes.*

He crushed some acari of each of the above groups and then passed a fine needle into the epidermis, this was then moistened with the fluid and replaced in the groove. Pain was produced when the derma was reached, and this was followed by vesication. This accounts for the intense pruritus often seen in thin skinned animals.

Among the entozoa various clinical pictures and post mortem findings have long suggested etiological factors other than their mere presence, or absorption of the host's food. The chief symptoms which support the toxin theory are those of anæmia, and cerebral disturbance. As an example of anæmia one may instance the changes in the blood of persons affected with *Anchylostomum duodenale.* This worm produces changes in both the red and white corpuscles. Boycott and Haldane (16) have worked on the subject in this country. The actual volume of blood is increased, the red cells are greatly decreased in number, so is the quantity of hæmoglobin, and the colour index, and there may be present normoblasts and megaloblasts.

All authorities admit that the osinophile leucocytes are greatly increased in number, producing a condition known as "eosinophilia"; especially is this so in recent infections. Looss points to the cephalic glands as the originators of the toxin of the above species. The blood of persons bearing many other species has also been proved to suffer from eosinophilia.

With regard to dog *Anchylostomum*, Neumann (17) states that there is diminution in the number of red corpuscles and that leucocytosis is marked, and when the anæmia is rapidly developed it is sometimes accompanied by convulsions. Anæmia associated with other forms of nematode infection of the bowel has been observed in many of the lower animals ; that associated with *Strongylus vulgaris* (*Strongylus armatus* in part) and the various species of *Cylicostomum* (*Strongylus tetracanthus*) being particularly well known. The small nematodes infecting ruminants also produce anæmia. With regard to nervous symptoms we have many observations, with many explanations of their origin. The presence of *Belascaris marginata* (*Ascaris marginata*) in only moderate numbers is generally held to be a cause of convulsions in puppies. Some assert that their mechanical action on the mucous membrane is sufficient to produce these, whilst others attribute the symptoms to the absorption of toxic products. In considering the subject one has to bear in mind the closeness of the brain and stomach in clinical pictures of this kind.

Dieckerkoff (18) has described a case of a horse which showed peculiar tetanic symptoms several times a day, and which was relieved soon after the passage of a number of *Ascaris megalocephala.* Many cases have been described of persons experiencing discomfort when dissecting *Ascaris.* It usually takes the form of excessive lachrymation due to a peppery odour which is given off by the worm. I once killed a ten weeks' old pig which shewed convulsions as it approached its food and found only three specimens of *Ascaris* in the small bowel. At the time I was inclined to attribute the symptoms to excessive activity on the part of the worms, this being caused by the secretion of digestive juices. Extracts *Ascaris megalocephyla* have killed a guinea pig in forty hours (Vaullegeard).

Among trematode infections, liver rot of sheep (*Fasciola hepatica*) is associated with very marked anæmia, and it is difficult to see how the flukes themselves consume sufficient blood to produce so severe a form.

The rupture of an *Echinococcus* cyst in man is often associated with urticaria, and it would be interesting to know if any of the cases seen in our patients are of that origin. Human beings affected with the tape worm *Dibothriocephalus latus* show an anæmia which differs only from pernicious anæmia in that it disappears when the worm is voided (19), Schauman and Tallquist (20) produced grave anæmia in a dog with extracts of this parasite, but failed to do so in a rabbit. Some authorities believe that the toxin only acts on the host when the worm is dead. Our patients often harbour cestodes without showing any inconvenience. When nervous symptoms have been recorded Cadéac and Lahogue (10) from tape-worm infestations there has usually been some recognisable damage to the endothelial lining of the bowel. That certain of the higher parasites have effects of a more remote nature than those produced in the bowel is further shown by the demonstration of an antibody in persons harbouring *Echinococcus* cysts. Under another heading it was suggested that the removal of portions of the mucous membrane by parasites opened up important channels for the production of obscure symptoms. Irrespective of bacterial invasions, there must be exposure of nerve tissue and the absorption of unfit products in an unnatural way. Enough has been now said upon this section.

Injury due to the Transmission of Disease producing Organisms by the Parasite.

The trouble caused under this heading is of course only indirectly due to the higher parasite, but it is chiefly by virtue of this transmission of disease by flies and ticks that parasitology has acquired so great an importance. In human medicine the mosquito and malaria parasite, the tstse fly and sleeping sickness, and many other examples are familiar to you. In our own country we have the transmission of *Piroplasm bigeminum* (Red water) by means of the tick *Ixodes ricinus.* In our colonies the tstse flies (*Glossina*) and ticks are still more important in the spread of trypanosomiases and piroplasmoses respectively. Recent work on what the house fly (*Musca domestica*) is capable of doing has become popular and has even reached our daily papers. Although the list of diseases spread by flies and ticks is at present considerable, it will no doubt be greatly augmented in the future.

Louping ill has long been noticed to be associated with the presence of ticks, and experiments have been conducted to see whether the pig louse (*Hæmatopinus*

urius) (21) is capable of spreading swine fever. In man certain worms have been shown to be fly transmitted, and some genera of the tissue worms of the lower animals are likely enough spread in the same way, e.g. *Onchocerca*, *Filaria*, and perhaps the equine *Spiroptera*. In every case where a solution in the continuity of the skin or mucous membrane is made by an anthropod or helminth the possibility of bacterial invasion cannot be dismissed, and there is to many minds no doubt that infection of the bowel often takes place in this way. Many cases of enteritis are so explained, and tetanus has been many times attributed to infection through parasite wounds of the intestinal tract. The material around the encysted immature nematodes of the horse's large bowel often contains pus and its organisms. If the bowel wall is penetrated the chance of infection is, of course, greater. The bacterial flora of the digestive tube and cysts of some parasites has already been investigated with promising results (22).

It follows from what has been said above that the migration of the larval forms of cestodes and nematodes from the bowel is a further possible source of bacterial infection.

Gentlemen, the whole object of my paper, disjointed and imperfect as I know it is, has been to show you that the association of parasites with almost any clinical picture should cause you to meditate over the remote symptoms and effects which they may produce. Having done this you can dismiss or incriminate them as your judgment thinks fit.

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Mr. Robert Long, of Stondon Manor, as well known in Bedfordshire as is Mr. Walter Long in rural England generally, gave an agricultural toast the other day which was received with "three times three." It was "Fewer Officials and Finer Weather."—*Standard.*

ROYAL COUNTIES VETERINARY MEDICAL ASSOCIATION.

The Annual General Meeting took place on Friday, Jan. 31, at the Great Western Hotel, Reading, and the gathering was, as usual, thoroughly successful. The President (Mr. David Wyllie, of Staines) took the chair at 2.15 p.m., the other members present were Messrs. J. C. Coleman, Swindon, and J. Willett, London, Vice-presidents; G. P. Male, Reading, Hon. Sec. and Treasurer; W. T. D. Broad, Marlborough; H. S. Dunn, Reading; H. C. Jagger, Bicester; E. J. Mellett, Henley-on-Thames; Capt. O'Rorke, Arborfield, Reading; Mr. J. H. Parker, Faringdon; Capt. G. Rees-Mogg, Windsor; Messrs. Percy J. Simpson, Maidenhead; S. H. Slocock, Hounslow; R. C. Tennant, Windsor; R. J. Verney, Oxford, and Mr. W. Hunting, honorary associate.

Letters and telegrams expressing regret at inability to attend were announced by the Hon. Sec. from Sir J. M'Fadyean (now in India), Sir Stewart Stockman, V.P., Mr. G. E. King, Mr. R. Page Ball (who enclosed with his subcription a cheque for £3 3s. for the International Congress). Mr. A. L. Butters (the Hon. Treasurer who had never previously missed a meeting of the Society, but was very unwell), Messrs. J. Varney, S. Villar, Col. C. B. M. Harris, D.S.O., J. R. Baxter, L. Barnard, H. P. Standley, Prof. McCall, J. East, W. Shipley, John Hatch, and J. Sutcliffe Hurndall, and also from Mayor of Reading (Ald. C. G. Field).

FINANCIAL.

The HON. SECRETARY (in the absence of Mr. Butters) submitted the audited statement of income and expenditure for 1912, a copy of which was sent to each member. He also read a letter from Mr. Butters stating that the accounts were in perfect order, but that the balance at the bank was £3 8s. more than the balance shown on the statement, owing to certain accounts not having been presented for payment.

The report was adopted on the proposition of Mr. Mellett, seconded by Mr. Slocock, both gentlemen expressing regret at the cause of Mr. Butters' absence, and appreciation of his valued services to the Association.

The HON. SEC. said he thought the Association was in a prosperous condition. There were five new members and only three resignations. The balance in the bank was fairly good, and £5 had been paid in subscriptions immediately after the balance-sheet was audited. The grant to the Victoria Benevolent Fund was an annual one, and would be paid each year unless the Association decided otherwise.

Another annual charge would be 1/- from each member to the National Veterinary Association.

MEMBERSHIP.

Capt. GRAHAM REES-MOGG, 1st Life Guards, Windsor, proposed at the last meeting by the Hon. Sec., seconded by Mr. Tennant, was unanimously elected a member of the Association.

W. C. HAZELTON, M.R.C.V.S., Buckingham, was proposed by Mr. Jagger, seconded by Mr. P. J. Simpson, for election at the next meeting.

Mr. G. H. WILLIAMS, Chippenham, was proposed by Mr. Coleman, seconded by Mr. Willett.

The resignation of Mr. J. A. Todd, of Worthing, was received with regret.

PLACE OF NEXT MEETING.

On the proposition of Mr. Coleman, seconded by Mr. Willett, it was unanimously resolved that the next (April) meeting of the Association be held at Swindon.

Sanitary Congresses.

Discussion followed on the resolution moved at the last meeting of the Association by Mr. J. Willett on this subject as follows:

"The Royal Counties Veterinary Association views with much dissatisfaction that according to the reports of their delegates to the Sanitary Congresses, the resolutions arising from the debates of the Veterinary Section are not embodied in the reports of the Congress owing to the said debate being held on the last day They are of the opinion that no further delegates should be sent unless better facilities are offered."

The President said he understood that the matter affected them somewhat as a profession, as at recent Sanitary Congresses it had been a sore point among veterinary delegates to find all their work relegated to the very last day, and not put in with other matters which seemed to take more the attention of the Congress. He thought it quite right that something should he done, and that Mr. Willett's action was in the right direction—to improve the position of the profession at those gatherings.

Mr. Willett said it was not his wish that they should cease sending delegates to the Sanitary Congresses, which undoubtedly did a great deal of good; but his objection was that veterinary matters were taken on the last day, when the attendance was very sparse. The crux of the matter was that when any resolutions were put on the last day and carried the Secretary of the Congress said that the Committee of the Congress had already sat, and therefore no resolutions could be received. That was a "lot of rot." (Hear, hear). He had reason to believe that other Veterinary Societies were moving the same way; and he thought that members of the National Society ought to be able to get the Veterinary Section of the Congress run concurrently with the medical and the sanitary engineers' sections. Otherwise the Veterinary Associations and their delegates simply wasted time and money. (Hear, hear).

Mr. P. J. Simpson said that having been the delegate of this Association last year, and experienced the difficulties which Mr. Willett had enumerated, he must say that it was disappointing not only to those who went as delegates but also to those who provided the papers, to have a vanishing audience. When a large paper came on at York there were only three or four in the room. He (Mr. Simpson) being a member of the Sanitary Institute and one of their Examining Board, had mentioned the matter; and he was sure that if it was brought forward it would be considered, and given adequate and proper thought, and that different arrangements would probably be made in time for the next year's Congress. If a copy of Mr. Willett's resolution—which he seconded—were forwarded to the National Association, with a request that action be taken, it would lead to good.

Mr. Coleman would like to reiterate what he said at the last meeting, when Mr. Willett's resolution was framed, that when he had the pleasure of representing the Royal Counties' Association at the Bristol Congress some years ago, the same thing happened. The Veterinary Section had always been at the tail end; and although a number of resolutions were proposed, seconded, and carried, they never appeared in print at all. He was strongly in favour of Mr. Willett's resolution being sent to the National Association.

The President said the position at present was very unsatisfactory from their professional standpoint. A vote of that kind, being sent to the National Association, would at any rate call attention in a very concrete form so the dissatisfaction existing among them owing to the present condition of things. (Hear, hear).

Mr. Willett called attention to the fact that there was a meeting of the National Council on the following Thursday, and suggested that if the resolution was forwarded at once it might alter the regulations for the coming Congress.

The resolution was carried unanimously.

Fees Paid to Veterinary Inspectors.

The following circular letter was read from Mr. T. C. Toope:—

Dover, January, 1913.

Dear Sir,

In recommending the accompanying scale of fees the Council of the National Veterinary Association have requested me to point out that the fees are to be considered a fair and reasonable basis for negotiations with County Councils and other Local Authorities, under the Contagious Diseases (Animals) Acts, where and when, such may be locally considered advisable. They fully recognise that under some circumstances and in some districts, modification must necessarily arise, they hope, however, as far as is practicable, the scale will be adhered to in the attempt to bring about a better and more uniform remuneration to veterinary inspectors generally.—Yours very faithfully,

Theo. C. Toope, M.R.C.V.S.
Hon. Sec. Southern Branch N.V.A."

The President invited the views of members upon the scale of fees which had been suggested by the South Eastern Association.

The Hon. Secretary congratulated the Sub-Committee, and especially their Secretary, on the drawing up of that scale of fees, which must have entailed a vast amount of work. He (Mr. Male) did not, however, agree with the suggested charge for applying the mallein or the tuberculin test as suggested in that scale. To test a cow, say, on the opposite side of the district was not, in his opinion, worth £3 3s., but they ought to get more reasonable fees than the County Councils at present paid. The scale before them would no doubt eventually get into the hands of Members of Parliament, County Councillors, and others interested in the promotion of the Milk Bill, and he thought such men would consider the fee suggested ridiculous. He (Mr. Male) felt that there should be a sliding scale, and he suggested that they should adopt the scale which was in force in Staffordshire and Worcestershire for glanders, viz., 21/- for the first case, 10/6 each for second and third cases, and 5/- each for further cases, the ordinary fees for mileage being also paid. With the scale suggested by the Committee if they went 50 miles and tested one cow or eight, they would only get the £3 3s.

Mr. P. J. Simpson, as the only member present of the National Committee who went into the matter, said the idea was that they were rather "shooting above the mark" with some of the fees suggested, but they felt that, while they might come down, they could not go up, and they were simply sent to the districts for discussion, and would not be scattered broadcast. A conscientious tuberculin test did not end with two visits—there ought to be three or four—and if they were going to make those visits, even to one cow, say ten miles away, £3 3s. was not an unconscionable fee to ask for. Under the Milk Bill there would probably be a good deal of testing, and it would be better to start with as high a fee as possible rather than to begin with low fees and then ask for an increase.

In reply to Mr. Male, Mr. Simpson said the £3 3s. did not include mileage.

Mr. Male thought it ridiculous to ask for £3 3s. for testing one cow ten miles away.

Mr. Simpson added that the Committee were perfectly willing to listen to any suggestions.

MATTHEW HEDLEY, F.R.C.V.S.

Chief Inspector, Veterinary Branch,
Department of Agriculture and Technical Instruction, Ireland.

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(1) Under surface of lamb's head.

(2) Skull : soft structures removed.

(3) Skull: normal.

AN ABNORMAL LAMB'S HEAD.

Illustrating note by E. Granville Haskell, M.R.C.V.S.

Mr. MALE proposed that the word "tuberculin" be left out of the recommended scale, and that the fee for applying the tuberculin test be in the first case 21/-, in the second and third cases 10/6 each, and in every other case 5/-, mileage to be paid at the usual rates, viz. 1/- per mile one way.

This was seconded by Mr. Parker.

Mr. SLOCOCK said they must bear in mind that they were only one party to the contracts, and he felt sure that no local authorities would adopt the scale as it stood. They should congratulate the committee on drawing up that scale, but they could not enforce it. He was in accord with Mr. Male. (Hear, hear.)

The PRESIDENT said the matter was open to a great deal of discussion, but without a trades union they could not force what they would like upon the people who were paying. (Hear, hear).

Mr. SIMPSON added that practitioners in Kent had just revised their scale, and had got practically all they asked for.

Mr. HUNTING pointed out that there was no mention of tuberculin in the Milk Bill or in the Tuberculous Order which was to accompany it. Three guineas for one animal, or even for two or three, seemed to him pretty stiff. The Irish people insisted on the mallein test for all horses going into Ireland, and they insisted on four or five visits.

Mr. Verney and Mr. Willett supported Mr. Male's views, and that gentleman's resolution was carried by 8 votes against 3.

It was then agreed, *nem con.*, on the proposition of Mr. Willett, seconded by Mr. Simpson, that subject to Mr. Male's resolution all the other fees in the scale be approved.

SPECIMENS.

Capt. REES-MOGG showed four cervical vertebræ from a horse of his own which fell while hunting and died seven or eight days afterwards, although the bones were very badly fractured.

Mr. BROAD related the case of a 5-year-old mare, which had never been broken in, and which was found lying on the Downs. After being towed home she lay four or five days, without the sense to feed, and would not lie on her near side. When got up her head went just like that of a dog with chorea. Three hydatides were found in the skull (part of which he produced).

Capt. O'RORKE exhibited a horse's larynx, which had been operated upon for roaring with only partial success. A certain amount of contraction had taken place on the side operated upon, but not sufficient to completely remove the roaring noise.

Mr. P. J. SIMPSON showed a number of concretions resembling marbles in size and shape, from the guttural pouch of the horse, which had had strangles 12 months previously. The animal was doing well, although other concretions which he had not removed could be heard to rattle when the mare's head was turned.

The gentlemen who had brought forward specimens were very cordially thanked, on the proposition of Mr. Hunting, seconded by the Hon. Secretary.

THE MILK AND DAIRIES BILL (1912.)

Mr. G. P. MALE opened briefly a discussion on this measure, touching on those points which affect the veterinary surgeon. The Bill was, he said, an attempt to provide pure milk for the community at large, and at the same time to be as fair as possible to the milk producer, and he thought that Mr. Burns had on the whole fairly well succeeded. The measure was not an attempt to stamp out tuberculosis from the dairy herds—although that would be its effect in part—but an attempt to get a pure supply of milk. Unfortunately the Bill had been shelved for the present Session, but there was a promise that it might come on again during the next Session of Parliament. He thought it had been fairly well received by the community at large. The few amendments which had been brought forward by the Central Chamber of Agriculture did not very much concern veterinarians.

One amendment which they proposed was that the Treasury should pay the whole amount of compensation which was payable under the measure, whereas at present the Bill said that the Exchequer should pay half and the other half should come from the rates. They had to remember that the County Borough authorities who would have to administer the Act would have to "pay the piper," and that therefore they should, to a certain extent, "call the tune." If they paid half the fees he thought that would be a fairly equitable arrangement.

The first thing that affected the profession was with regard to the giving of licenses to dairymen. The Bill said that the Sanitary Authority might by order remove any dairy from the register, or refuse to register any premises as a dairy, "if such premises became or were by reason of structural defect or insufficiency or other reason unsuitable to the purposes of a dairy business." The Medical Officer of Health was the acting man for the Sanitary Authorities, and the clause gave him very large powers. He (Mr. Male) had the greatest respect for the medical profession, but they had not had much experience in inspecting dairies or cowsheds. Some of them no doubt had very strong views as to the amount of cubic air space required, and other arrangements; and so doubtless many cowsheds would be condemned. He thought that duty was one in which the veterinary surgeon should be called in to assist the Medical Officer of Health. (Hear, hear.) A further clause said that the Medical Officer of Health might inspect the cattle "if accompanied by a veterinary surgeon." In his (the speaker's) opinion he should also be so accompanied when he inspected dairies and dairy premises. (Hear, hear.) Certainly the dairyman could appeal against removal from the register, or if he was refused registration on that account.

Another clause referred to the inspection of cattle at any hour by the Medical Officer "if accompanied by a veterinary surgeon."

The next clause explained the procedure under the Act. If milk from any dairy situated without the district of any sanitary authority was being sold in the district, and the Medical Officer of Health for that district had evidence of disease in the area from which it came, he was to give notice to the authority controlling that district, and such authority should forthwith cause the dairy, the persons employed, and the cattle therein, to be inspected by the Medical Officer of Health, who again "shall be accompanied by a veterinary surgeon." That clause allowed the owner of the cattle to be represented at such inspection by a veterinary surgeon, and sufficient time would be allowed before the inspection was made for him to secure such representation. The procedure probably would be this. An inspector, say at London, would take samples of milk from a churn, and if tubercle bacilli were found the authorities from whose district the milk came would be notified, and the local Medical Officer of Health and a veterinary surgeon would proceed to the premises and the udders of the cows would be examined; and he took it that if there were suspicious enlargements, samples would be taken from the particular cow or cows and examined. He did not know whether the law would take it as sufficient if acid-fast bacilli were found, as proof of tuberculosis, or whether inoculation experiments would have to be made. Inoculation experiments would take a month, which would delay matters; or possibly the authorities would say that a cow should be tested with tuberculin if she was suspected, and if the cow reacted that might be taken as sufficient evidence that she was giving tubercular milk,

and she might be killed. As they knew, it was difficult to find acid-fast bacilli in milk, and if they were found it was difficult to swear whether they were tubercle bacilli and had come from a particular cow. Therefore he hoped the tuberculin test would be applied to solve the question.

Another clause said that any report to the authority from the Medical Officer of Health should be accompanied by a report furnished to him by the veterinary inspector or veterinary surgeon. The Medical Officer of Health, if he considered the case one of urgency, might stop the supply of milk. There was no doubt the farmer would look upon the veterinary surgeon as a sort of referee in that matter, and he (Mr. Male) thought it very fortunate for the farmer that the Medical Officer of Health should be accompanied by somebody who knew the requirements and the habits of cows.

Another clause provided that if a person *knowingly* sold or offered or exposed for sale for human consumption or for use in the manufacture of products for human consumption the milk of any cow which had within six months, to his knowledge, given tuberculous milk, or was still suffering from tuberculous udder, or which was emaciated from tuberculosis, should be in each case subject to a fine not exceeding £10. The word "knowingly" saved the skin of the farmer, because it would be very difficult indeed for a farmer to know unless the milk had been tested for tubercle bacilli. As they knew, tuberculosis of the udder or of one of its quarters, was a very difficult lesion to distinguish from chronic mastitis. They got a cold, hard, nodular, slowly-forming swelling in one quarter of the udder, and in some cases they would expect to find the lymphatic glands very enlarged. That would help in the diagnosis. Of course in other cases there might be a cough, and they might be able to examine the sputum for tubercle bacilli; but tuberculous udder in itself was a difficult thing to diagnose. (Hear, hear). "Emaciation from tuberculosis," again, was not as easy as it at first appeared to be. Cows got emaciated from Johne's disease, from parasitic gastritis, and from other diseases, such as pneumonia, from which they might recover.

Some bodies had asked for the amendment of Clause 14 of the Bill, where it read—"The local Government Board may, by order, require the Council or Authority to appoint one or more veterinary inspectors," etc., asking that the word "may" should be altered into "must." He did not think that would affect the profession very much, because the Medical Officer of Health was not able to examine the cows unless he was accompanied by a veterinary surgeon—so that whether one was appointed or not he would have to be called in.

In conclusion Mr. Male apologised for the "scrappy" nature of his remarks, the time being so short, and hoped there would be a good discussion. (App).

Mr. COLEMAN said he had been in active communication with two or three local Members of Parliament on the question of Mr. Burns' Bill. They ought to be very much obliged to Mr. Male for the condensed, yet thorough manner, in which he had gone through the measure as it affected the profession. (Hear, hear). In his (the speaker's) opinion, the Bill was absolutely useless as it stood. It was a Medical Officer's Bill, and no good to veterinarians. Why should not the medical officer "accompany" the veterinary surgeon in inspections? What knowledge had the medical officer of cattle to qualify him in inspection? Would it not be better to have periodical inspection by a veterinary officer to detect and arrest disease? (Hear, hear). He held that inspections should be of uniform character the whole country over, and not left to the option of any authority. The Bill as it stood was worse than valueless. It led the public to believe that provision was being made to protect their health, whereas in fact signs of disease had to be shown before any steps could be taken. Medical and veterinary officers should work in conjunction, and the medical officer should have nothing to do with cows and cowsheds except under particular circumstances. As to compensation, he thought the proposal that local rates should bear half was very unjust. The different counties in England and Wales were differently worked from the agricultural point. One county was practically all arable, and another practically all dairy. (Hear, hear). Then it was recommended that the Board of Agriculture should appoint inspectors to travel great distances into other counties, instead of county inspectors being appointed as Board of Agriculture inspectors as well; and to that he strongly objected. (Hear, hear).

Mr. HUNTING said he had read the Bill pretty carefully, and thought it an extremely good Bill, and one they should encourage. In considering its value they must remember that it would be issued at the same time as the Tuberculosis Order, which would very strongly supplement it, and would give the veterinary surgeon much fuller powers. Another thing to remember was that under Clause 15 that Bill might be considerably strengthened by the powers given to the Local Government Board to issue separate orders, just as the different orders of the Board of Agriculture had strengthened the Diseases of Animals Act. In Birmingham and Manchester there were veterinary surgeons appointed under the Local Acts to keep up a regular and systematic inspection of dairies. Under Clause 26 of the Bill they would find powers for the repeal of those local Acts. Clearly it was impossible in a large provincial city for a medical officer to visit all the cows and cowsheds unless he had a veterinary surgeon as deputy; and it was curious that the power given to the Medical Officer of Health to delegate his powers should have been deleted, because in the first point of Mr. Burns' Bill—some three years ago—the medical officer was given power to delegate his duties under it to some other person. He thought the veterinary profession should not ask for powers which were really properly those of Medical Officers of Health. They had nothing to do with milk as a food; and, with the aid of the Tuberculosis Order, both parties would have their proper duties laid out, and could work together amicably if they liked to do so. (Hear, hear).

ADDRESS BY THE PRESIDENT,

D. WYLLIE, M.R.C.V.S., Staines.

Gentlemen,—When at our last meeting you did me the honour to elect me your President in succession to the then Mr. Stewart Stockman, now Sir Stewart, I accepted with a considerable amount of temerity. Not only was I following one of the most prominent members of our profession to-day, but was taking up duties, such as I had little experience of. Among other duties I found that it was expected of a president to deliver an address. In this case I am afraid the remarks I have to make can scarcely deserve that title.

Having referred to my predecessor, I will continue by saying that in the name our Association we offer our most hearty congratulations on his being knighted, and we are pleased to see him here to-day.

Of recent years, perhaps, honours of this kind have been conferred somewhat more lavishly than of yore, and politicians, it seems so me, have always had the lion's share. Certainly the veterinary profession has never been at any time overdone with such honours, and I will venture to say that never was such an honour conferred on any individual in any profession who by his individual efforts and achievements, was more deserving of that honour.

We know what good work Sir Stewart Stockman has done for the profession as a whole, and more particularly in that branch of science in which he has been

mostly engaged, and to which he is an ornament and the acknowledged authority—preventive veterinary science.

I am sure we as a society feel all the reflected satisfaction in the fact that Sir Stewart Stockman has been for so long a time, and is now a prominent member of the Royal Counties Veterinary Medical Association. He might well be described as practising veterinary science imperially, his work and research having been carried on with what success we all know in several of the distant and most important colonies of this great Empire. We are all aware of the great changes taking place in every kind of trade or profession, and in no branch of the world's work had the change been more radical than in our own. All of us here were in practice before motor traction became an established fact, and I take it not one of us can help but look with regret back on the old days when for most men who had a liking for outdoor life and incidentally for sport, veterinary work possessed a sort of glamour. That glamour has, I think, gone. We do not go about our work in the fashion we used to do, and in this we, of course, are not alone.

Every kind of work has to be done to-day at high pressure, and the care of that animal, the horse, to which most of us gave our greatest attention, has in most cases lost the important place it held formerly.

In many establishments, where formerly a goodly stud was kept and the owners were pleased to be called "horse-proud," you now notice the entire absence of the noble animal. This does not apply to town practice only, as in many residential districts where the most pleasant and most lucrative practices are situate, the position with regard to the horse is the same.

Fortunately for us if the world's progress has rendered our work in one direction unnecessary, that same progress has opened up new and ever enlarging channels for the veterinary's future activities. He will in the future be more and more used and recognised as necessary in the prevention of disease, and in the preservation of the public health.

Already there are appointments filled by veterinary surgeons all over the land. Such positions 20 years ago were either not in existence or were scarcely worth having from a pecuniary point of view, and did not then impress the powers that be with any serious appreciation of their importance. A few years in this strenuous age makes a great difference in public opinion as in everything else, and *now* we as a profession are looked upon as the right men in the right place to stamp out such epidemics as we have recently experienced in the outbreak of the foot-and-mouth disease. Where formerly, and perhaps not undeservedly, we were looked upon somewhat sceptically. Legislation affecting us as practitioners is in evidence, and the milk and dairies bill, while it may not be all we expected, does recognise our position, and also the fact that tuberculosis has been demonstrated and proved to be directly communicative to the human subject through the medium of milk, and when we remember that the country has to thank veterinarians such as Sir John M'Fadyean, Bang, and others for this discovery, it seems an anomaly that the veterinarian in matters relating to public health should act in such a secondary position in this particular work—the proper supervision of the milk supply under the Medical Officer of Health. The bill if passed as it stands at present is, I think, in some cases distinctly unfair to the veterinary surgeon. "Rome was not built in a day," however, and we can congratulate ourselves that we have to see after our interests at the Board of Agriculture, such men as our friends Sir John M'Fadyean and Sir Stewart Stockman, and can leave matters of this kind in their hands.

Passing to the subject of veterinary education, here also we see great changes and now attention and energy in the schools is devoted to the production of the scientist and in making fit the coming practitioner to fill with credit to himself and to his profession, public offices connected with veterinary research which must come into existence. The microscope which in my student days was regarded by most of us as very unnecessary, is now even in ordinary country practice in every day use,

At the same time with all our efforts to keep ourselves up to date and capable of fulfilling our duties well and doing our work conscientiously, I do not think it can be said we are a well paid profession, personally I think we are the hardest worked profession and the worst paid. That may be because we are numerically a small profession and not always acting homogeneously and therefore weak. I am no advocate of trade unions, but I do think we might do ourselves as a body much good by taking a leaf out of their book as for instance in matters of fees paid by local bodies and Insurance Companies, about which recently, and I think rightly, there has been much discussion and it is painful to notice that almost invariably something has been said in those discussions about the bogey of the unscrupulous neighbouring practitioner.

Now, gentlemen, our professional papers are read by others than members of the profession, and I do think that it does not do credit to our professional *esprit de corps* to have this continually reiterated ; and it can do us no good in the eyes of laymen who are interested in veterinary work. I do not refer to any particular instance of this, but I think we can discuss a matter of this kind, such as fees, etc., without making mention of this bogey.

The one remedy for overcoming the distrust of the practitioner we do not know well is to endeavour to get our professional brethren more and more to join such a society as that which I have now the honour to address. To remember that professionally we are each fighting our own battle and to learn by personal contact under other conditions than that of our daily work, that after all there is some good in the man of whom we had formed a harsh opinion, because we had no opportunity of meeting him out of armour.

And before closing I would like to express my opinion as to the good fellowship which is begot by these societies and their meetings, not only for discussion of business and professional matters, but by the opportunity given of meeting others with same worries, the same troubles, the same ideals and ambitions as ourselves, and to learn by fellowship that the alleged unscrupulous one may be quite a good chap, who may now have chosen his parents quite as wisely as some, or may have a larger family than he finds it easy to maintain, and who cannot afford to let slip even admittedly inadequate fees.

It is a pleasure to see such a goodly company here, and among them I see many valued friends and well known faces, who, but for this Association, I perhaps should never have known, and I can assure you it gives me great pleasure to be here in this position to-day, and during this year of office which I have entered upon, no efforts of mine will be lacking to do what I can for the good of the Association, and to see that its effects towards the advancement of the profession and the spread of a feeling of mutual fellowship among its members is fostered.

And if for no other reason than an occasional pleasant meeting, and the cultivation of a greater unanimity among ourselves, I sincerely trust and hope that the Royal Counties Veterinary Medical Association may continue to prosper.

At the close of his address the President was thanked by acclaim, on the call of Mr. Slocock.

The Annual Dinner.

The annual dinner which is always such a pleasant feature at the Reading Meeting of the Association followed, at the Great Western Hotel, and the catering, as usual, was perfect, and the evening a bright and happy one. The President filled the chair, supported by the members enumerated above, and the party sitting down totalled about 30, the members being joined by several friends. The visitors included Dr. Gifford, of Egham, Mr. Harry Buckland, of Windsor; Messrs. Job Lonsley and Thos. Chettle (Chairman and Hon. Sec. of the Berks, Bucks and Oxon Dairy Farmers' Association), John Eighteen (Chairman of the Reading Corporation Farm Committee), Guy Sutton, F.R.C.V.S., London, Wm. Petty, M.R.C.V.S., Edward Nicholson, M.R.C.V.S., H. P. Tate, and Harold Stainton

The toast of "The King" was loyally drunk on the call of the President

Mr. Verney proposed "The Imperial Forces," observing that he seemed to have been selected to do so because he was one of the few members of the Association who was not in one way or another connected with the Services—which was rather a distinction. (Laughter). Englishmen had very great traditions to follow in what had been done by the Navy, the Army, and the Reserve Forces. They were much obliged to the First Lord of the Admiralty for the improvements he seemed to be effecting in the Navy; which to his (the speaker's) mind was really more efficient than it had been for some years. We had, it was true, a small Army, but it was pretty efficient, except as to the Remount Department; and there the Minister for War asserted that he had a full complement of horses on which to mount the whole British Army (Laughter). He was sorry to disagree with the Rt. Hon. gentleman. Farmers and others—fools like himself—had been breeding light horses, but for the last five or six years they had not been bred. The farmers themselves had been riding bicycles instead of horses; and the outcome was that the War Secretary made the biggest mistake in his life when he said he could put an Army Corps in the field. (Hear, hear). England was shorter of horses than for the last 15 years, and the shortage was continuing. He coupled with the toast the name of Capt. O'Rorke, and also welcomed to their Association Capt. Rees-Mogg. (Applause)

Capt. O'Rorke, in the course of his reply, said he had not had much experience of the Navy, but he thought they were more efficient than some of the newspapers made out; and he thought the declared policy of the Admiralty to keep a 60 per cent. superiority a right one. He believed that the Army was quite good. (Hear, hear). From the re-mount question he happened to be in a position to know that things were better than the papers said. His small experience was that foreign countries often bought horses in Ireland which he would not have on any account; and the majority of the horses bought for the continent were certainly no better than his department bought. When they mobolised it was quite a different thing, and he could not argue with Mr. Verney on that point. At any rate he could say that the Army was becoming more efficient every day, although the numbers might be small; and especially in his own branch of the Service he could see a change for the better. Officers were now called upon to do much more work than they were a few years ago. No doubt the Territorial Force, which was being cried down every day in the papers, should be given more consideration. (Hear, hear). They worked under great difficulties, and it would have been better if the people who cried them down would join and try to help them on, and make the best of a good movement. In conclusion he said that Mr. Verney's son was a great friend of his, and was so when they were serving in South Africa. Applause).

Dr. Gifford submitted "The Veterinary Profession" in a humorous speech. He had, he said, many friends in the veterinary profession; and sometimes he wished that he had himself become a "Vet." He was speaking of years ago, when there were no infernal motors and no "panels." (Laughter). He had not himself yet taken to a motor, and he should not do so as long as he had a decent horse.

Mr. Slocock replied for the profession, which, he said, was one to which he deemed it an honour to belong. The profession was comparatively young, but it had made its way, and was coming well to the fore, and it would take its place among the other learned professions. The strides which it had made it had made by its own efforts. They had not received the State aid accorded to their profession in other countries. The progress of which he spoke could be attributed to the great value which the veterinary profession had attracted to itself in various ages. Those of them who qualified in his (the speaker's) time would remember that the profession was on a very different footing than that on which they now stood. The profession was now taking its share in all the modern advances in medicine and surgery. (Hear, hear). Amongst their members they could fairly claim some of the great scientists of the day. The profession, as a means of livelihood was as good to-day as it ever was; and he was as sanguine in that regard as he was when he joined it over 30 years ago. They were hoping that veterinary surgeons would soon be appointed on the establishment of every Local Authority throughout the kingdom. (Hear, hear). They should be on a par with the medical profession, and he was sure that medical officers would welcome them in aid. (Hear, hear).

It was true that horses were diminishing in number; but there were many other lines in which the practice was looking up. The income derived by veterinary surgeons, for instance, amongst domestic pets during the last 20 years must have been enormous. The Council of the College was composed of workers, and he assured them that it was doing its utmost with its limited funds. They hoped that before very long the "little Bill" would be passed which would enable them, one and all, to put the profession and the Council in a more prosperous condition than they had ever been in the past. (Applause).

Mr. Buckland, in facetious vein, proposed the toast of "Success to the Royal Counties Veterinary Medical Association, the President, and Officers," and as a member of several associations spoke of the value of such gatherings in bringing professional men together to make friendships and ventilate their opinions. When the new Dairy Bill got through, he said, he was sure there would be many appointments going that at the present time were in the wrong hands. He had for some time been a member of the Tuberculosis Committee in connection with the Royal Agricultural Society; and it was agreed that all people having to do with dairies and with meat should be qualified people, and not people out of "drapers' shops." (Hear, hear). He was delighted to find that the veterinary profession was well supported in the new Bill. It would not be so bad as some people seemed to think, for they would receive a good deal of money from the Government and from local authorities. Next June they had the Royal Counties Agricultural Show coming to Windsor, and he hoped that those to whom he was speaking would induce some of their clients to send some good horses there. Their good friend the President (Mr. Wyllie) was a near neighbour of his, and he was a good fellow, a good sportsman, and a good veterinary surgeon. (Applause). He congratulated the Association on having

Mr. Wyllie as their president, and his friend on being the President of such an important Society. Their good Secretary, who was "a devil to work," had the interests of the Association at heart, and he would see that it continued to go well. If they ever gave him the opportunity he (Mr. Buckland) would be very happy to meet them again. (Applause).

The PRESIDENT briefly responded, as did Mr. Male, the latter gentleman expressing the great regret which was felt that evening at the absence of Mr. Butters, one of the oldest members of the Association, and one who had always given his heartiest support to the interests of the Association and of the profession as a whole. (Hear, hear). He took it as a very great compliment that so many members of the profession and so many distinguished guests were at the table that evening.

"Success to the Berks, Bucks, and Oxon Dairy Farmers' Association" was given by Mr. W. HUNTING, who began by saying that if there were no agriculture there would be no veterinary surgeons. The more scientifically cultivated the animal became the more the veterinary surgeon would be interested and required. He took it that the Dairy Farmer's Association would devote itself to the interests of the cow, and of the production of milk; and both of those things were very intimately connected with the veterinary profession. The Diseases of Animals Bill had a great deal to do with cows and with agriculture many years ago; and the profession might claim that the stockowner owed much to them, especially in the stamping-out of pleuro-pneumonia and of smallpox in sheep. They had still one disease—tuberculosis—to contend with, and that might be tackled in two or three different ways; it might be by co-operation, but he did not agree with penal methods. He believed that it was arranged that on the Bill becoming an Act of Parliament, Tuberculosis Orders would be issued by the Board of Agriculture, and the two together would be complementary the one to the other, and do a great deal of good, if only by getting in the thin end of the wedge. To deal with tuberculosis by harsh measures at the present moment would lead to harsh measures all round. The only people who would object to compulsory notification were the pedigree stock-owners—who were his (Mr. Hunting's) pet aversion. (Laughter). He wished every success to the Association, prosperity to which he proposed. (Applause).

Mr. JOB LONSLEY and Mr. T. CHETTLE (Chairman and Hon. Sec. of the Association respectively) made suitable response to the toast.

The toast list concluded with that of "The Visitors," proposed by the President, and responded to by Messrs. Sutton and Eighteen; and "The President," submitted by Mr. Sutton.

During the evening some capital songs were given by Messrs. W. Petty, Hunt, and Percy Simpson. Mr. Harold Stainton played violin solos with great acceptance, and some "anecdotes" were quaintly told by Dr. Gifford, Mr. Coleman, and Mr. Hunting.

Replying to a question in the House of Commons on Monday, Feb. 3, Mr. John Burns said the total loan debt of local authorities in England and Wales in 1910-11 was £540,000,000, equal to £15 1s. 10d. per head of the population, and £2 9s. per £ of annual rateable value.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.		Anthrax. Outbreaks Confirm'd	Anthrax. Outbreaks Reported	Anthrax. Animals Confirm'd	Anthrax. Animals Reported	Foot-and-Mouth Disease. Outbreaks	Foot-and-Mouth Disease. Animals.	Glanders † (including Farcy) Outbreaks	Glanders † (including Farcy) Animals.	Parasitic Mange. Outbreaks	Parasitic Mange. Animals.	Sheep Scab. Outbreaks	Swine Fever. Outbreaks.	Swine Fever. Slaughtered. *
GT. BRITAIN. Week ended Feb. 8		13		13				4	4	81	166	11	38	358
Corresponding week in	1912	30		35				4	4	116	246	14	67	1123
	1911	23		23				6	11			34	41	571
	1910		27		29			11	38			23	20	147
Total for 6 weeks, 1912		73		84				20	79	499	1160	68	213	2617
Corresponding period in	1912	152		174				16	35	890	2283	91	368	4386
	1911	132		145				29	80			185	213	2346
	1910		179		212			43	136			183	122	937

† Counties affected, animals attacked: Lancaster 1, London 2, Worcester 1.

Board of Agriculture and Fisheries, Feb. 11, 1913.

IRELAND. Week ended Feb. 8	...	...	...	...	...	...	Outbreaks 8	25	4	28
Corresponding Week in 1912 ...	...	...	...	...	...	...	2	14	2	10
1911 ...	1	1	...	...	...	...	4	10	2	56
1910 ...	...	...	...	...	...	...	2	18	...	...
Total for 6 weeks, 1912 ...	...	...	...	...	...	...	57	114	28	152
Corresponding period in 1912 ...	1	1	...	...	...	...	13	124	15	164
1911 ...	3	3	...	...	...	...	15	126	21	341
1910 ...	2	2	...	...	...	...	15	135	5	156

† These figures include animals slaughtered and found affected on post-mortem examination.

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Feb. 10, 1913

NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

Vetting of Stallions.

At the Annual Meeting of the Clydesdale Horse Society, Mr. John M. Martin said that he desired, on behalf of the Council, to bring before the meeting the question of the compulsory vetting of horses. Subsequent to the conference in London the society received a letter from the Board of Agriculture and Fisheries stating that it was not their intention "this session" to introduce any measure requiring the compulsory veterinary examination of all horses travelling the countryside. That was a very drastic measure. It was not merely that anyone could send his horse to be vetted and certified as sound, but that no horse should be allowed to travel which was not officially vetted and passed as sound. While some of them had been in favour of encouraging a Government list of officially vetted stallions, and while the Highland Society had gone so far as to stipulate that they would give grants to no horses other than those on the list, the contemplated action of the Board of Agriculture was a very different matter. It was incumbent upon them to give forth in no uncertain voice their views on the matter. They thought that the breeder was entitled to make any use he liked of vetting facilities, but that it was qui another matter to prohibit a horse which had not been vetted from serving as heretofore. The question of soundness itself was one on which they did not agree with the veterinary advisers to the Board of Agriculture. The proposals of the Board of Agriculture went further than soundness, and suggested that veterinary surgeons should pronounce whether a horse was suitable or not to be a stallion. The society held that except on the matter of technical soundness the mass of the farmers of the country were fully as good judges as any veterinary surgeon as to what was a good horse. (Applause.) And under no circumstances would they agree to the veterinary surgeons having the power to say what sort of horse they were to use.

Mr. Martin, continuing, said that they proposed that the bill, if ever introduced, should not apply to any horse which was foaled at the time the Act passed A committee, consisting of Mr. Findley, Principal M'Call, Mr. Robert Brydon, and himself, had drafted a resolution for the consideration of the meeting. The resolution was in the following terms:—"That the members of this society consider that legislation to exclude from public service all stallions not passed as sound by official veterinary examiners is at least quite premature, and should in any case only become operative as applicable to animals not foaled at the time of the passing of the Act; further, that should legislation in this direction be at any future time contemplated, this society claims to be heard through its Council, in conjunction with other horse-breeding societies, before any bill is submitted to Parliament."

Principal M'Call seconded.

Mr. John Marr, Uppermill, criticised the motion as being rather moderate. If, he said, action such as was proposed by the Board of Agriculture was taken, it would be injurious in an extreme degree to the breed. He thought it would be impossible for the Board to work their policy in any practical form. The animal passed as sound under the scheme might not do half as much good in breeding stock as an animal which was not passed as sound. (Hear, hear.) The Board of Agriculture should leave the selection of stallions to the common sense of the agricultural community. They resented being dictated to by officials who probably did not know what they were about. (Applause.)

Mr. Robert Brydon, Seaham Harbour, did not agree with Mr. Marr's view. They should, he thought, recommend that if ever this legislation was introduced it should apply only to animals which were not then foaled. That was surely warning enough in all conscience to breeders. Mr. Marr had stated that if the proposed legislation was passed every animal had to be passed sound it would be unworkable, but he would like to point out that even with this law in force breeders could still use their own judgment as to whether they employed an animal certified sound or not. There was no proposal before the country to prevent a man from using any horse he cared to select. He did not think that anybody who had studied the subject could believe that it was to the interests of the country to breed from a horse which was hereditarily unsound.

Mr. John Findlay, Springhill, Baillieston, said that as one of the committee who had drafted the resolution he agreed that its terms were too moderate. (Applause.) Their society, from its knowledge and experience, was in a position to state emphatically that it disapproved of the proposed legislation. There was no use in mincing matters. If the breeders of the country were to be dictated to by officials in whom they had no confidence then the society should guide them in the matter. (Applause.) When they considered what Scotland in years past had done in producing a sound class of horses they did not require to go to London or to any other Board of Agriculture for guidance in their own business. (Applause.) It was all very well to speak of hereditary disease. He did not think it was intended to distinguish between what was and what was not hereditary. The examiners would simply say sound or unsound, and they all knew that a horse might be unsound to-day and sound to-morrow. (Hear, hear.) Was a horse to be unsound at five, seven, or nine years, or was there to be no age limit? Any number of the best horses in the history of the breed if they had been put before the veterinary surgeon would have been certified as technically unsound, although many years of breeding had proved that they produced good, useful, sound stock.

Mr. George A. Ferguson, Surradale, Elgin, moved as an amendment that the meeting "emphatically opposes any steps to be taken meantime tending to impose compulsory veterinary examination." He had been, he said, a strong advocate of veterinary inspection. He felt strongly that it was the duty of the Board of Agriculture to give information and also protection to a certain section of the public, but he thought that they discharged their duties fully already, and he was well enough pleased with the rate of progress they were making.

Mr. Marr, in seconding, remarked that they must oppose at the outset such intolerable interference with the breeders' position.

On a vote, the amendment was carried by 25 votes to 8.—*The Scottish Farmer.*

Prosecution by the R.C.V.S.

At Lambeth Police Court, before Mr. Baggallay, Richard Evans, of High Street, Dulwich Village, was summoned by the Royal College of Veterinary Surgeons for unlawfully using and taking an addition and description, to wit, "canine doctor," contrary to the provisions of the Veterinary Surgeons Act, 1881.

Mr. G. R. Thatcher appeared in support of the summons, and Mr. Percy Robinson defended.

In opening the case, Mr. Thatcher said the complaint was that the defendant exhibited a brass plate on his door bearing the words, "R. Evans, Canine Doctor."

Mr. Robinson: To save my friend trouble and the Court time, I will admit at once that my client is not registered.

Mr. Thatcher said his submission was that the defendant had adopted a title, addition or description, stating that he was qualified to practice a branch of veterinary surgery. He described himself as a "canine doctor." In the popular meaning of the term doctor meant ex-

actly the same as surgeon, and, therefore, the defendant was practically saying that he was practising a branch of veterinary surgery.

Mr. Robinson said it was not suggested that the defendant was not carrying on his practice in a proper manner, or that he was not a competent and skilful person. The only question was whether he had taken a title which was an infringement of the statute. He submitted that the words, "Canine doctor," did not imply that the defendant had a diploma or degree which entitled him to be registered under the Veterinary Surgeons Act of 1881.

Mr. Baggallay: Supposing he put up the words "I can cure all the dogs."

Mr. Robinson: No one could touch him, sir. He could put up "I am the finest man in the world to cure your dogs," and no one could touch him.

The magistrate reserved his decision.—*Morning Advertiser.*

REVIEW.

WESTMORELAND AGRICULTURE, 1800—1900. By FRANK W. GARNETT, M.R.C.V.S. Illustrated. Price 30/- net. (Titus Wilson, Publisher, Kendal, 1912).

From cover to cover this work shows that its publication must have meant a considerable financial outlay; its contents prove that a great deal of careful reading and research has gone towards its preparation; and its nature and price alike ensure it a very limited circulation. For a veterinary surgeon to publish such a volume at all is an unusual occurrence; and the position the present author holds within the profession renders his work doubly interesting.

In his preface, Mr. Garnett says that the book must not be regarded as a history of Westmoreland agriculture, though adds that it "may contain some of the materials for one."

"My object," he says, "has been to give sufficient material to enable each reader to form a conception of the state of agriculture during the past century, the phases through which it has passed and the development of stock—more especially that which is indigenous to the county—and to indicate the direction in which it is trending." He has certainly succeeded admirably in the aim; and in doing so has collected a great deal of historical material which, in addition to informing the reader, will be more than useful to any writer who may subsequently attempt a more detailed work on the subject.

The book begins with a fairly lengthy introduction, designed to convey an idea of the agricultural conditions existing in the county about 1800—the beginning of the period under survey. The remainder can be roughly divided into two portions for purposes of review, though they are constantly intermingled in the text. One consists of a mass of very varied statistical matter, largely in tabular form, and chiefly culled from Governmental, county, and district records. The other may be described as a series of original essays upon the County's development during the century in many departments of agriculture; and here again the author's wide reading is in evidence, for the quotations from other writers throughout the period are constant. Some branches of agriculture—such as land tenure in manors, geology, and agricultural sports—are purposely almost if not quite unnoticed. Of the very numerous ones which are treated, perhaps commons, markets, and fairs, sheep, and agricultural societies, provide the most interesting as they do the longest articles. Area, roads, tithes, cattle, horses, land holding, population, weather, values, rates, and county finances, are only a few of the other subjects which receive more or less extended notice. The whole is most excellently written—lucid, condensed, and at the same time entertaining—and altogether the book gives a very good "conception" of the agricultural past and present of a county the development of which has received singularly little notice in England. In addition to the numerous and excellent illustrations—mostly of agricultural scenes and subjects, and special breeds of animals—there are maps, some curious old legal documents, an index, and a bibliography of half a dozen pages, the latter well showing the author's methods of work.

The book has literally been "made in Westmoreland." It was written by a Westmoreland man, aided by Westmoreland chronicles; most of the illustrations—there are more than sixty—are reproductions of the work of Westmoreland photographers, and the whole has been produced by a Westmoreland publisher. Of the latter's share of the work we will only say that in binding, paper, printing, and perhaps especially in the reproductions of photographs, the book will bear comparison with those of any London house. In every way the book is a credit to the county, and we only wish that its author could find the time to attempt a really exhaustive history of the same important subject.

THE INTRODUCTION AND SPREAD OF THE CATTLE TICK (BOOPHILUS ANNULATUS, VAR. MICROPLUS), AND OF THE ASSOCIATED DISEASE TICK FEVER (BABESIASIS) IN AUSTRALIA.

Prof. J. A. Gilruth has communicated to the Royal Society of Victoria the result of his investigations upon this subject. The Australian tick fever is not present amongst the British herds which have formed the basis of the Australian herds, and, serious as the disease is in many localities, it is not found all over Australia. The disease first appears to have been noticed at Glencoe, 104 miles from Darwin by rail, about 1880-1881; and from thence it gradually spread southwards. It first began to be mentioned in official reports presented to Parliament from the Northern Territory in 1886; after which it rapidly assumed increasing importance.

Prof. Gilruth has instituted inquiries to ascertain, if possible, the agency by which ticks and tick fever were first introduced into Australia. All the evidence he has collected, although it is purely circumstantial, indicates that the ticks and the disease were first introduced by some cattle from the Dutch Indies which were imported by the British Australian Telegraph Company in 1872, and landed at Darwin. His chief reasons for believing this are—that all cattle in the Dutch Indies, though naturally immune to redwater, are more or less affected with ticks; that this was the only importation of native Eastern cattle which were able to cross with station cattle; that some of these imported cattle are known to have travelled inland as far as the Adelaide River; and that in all probability some of their progeny would gradually reach the main stock route somewhere about Glencoe, where the disease was actually first noticed about eight years after the importation. The evidence points to the subsequent gradual extension of ticks and disease along the stock routes from Glencoe. This is the main conclusion of Prof. Gilruth's paper, which embodies the results of much careful inquiry. It is possible that the problem which he has attempted to solve will never be settled with absolute certainty. But the evidence and arguments which he adduces in support of his theory are certainly very strong, and it appears probable that his view will be permanently accepted as the likeliest answer to the question.

W. R. C.

Border Farmers and Newcastle Market Day.

A largely attended meeting of farmers and dealers was held on Monday in Hawick Auction Mart, and protested against the proposal to change the market day at Newcastle-on-Tyne from Tuesday to Monday. Mr. F. P. Fenwick, Northhouse, president of the Teviotdale Farmers' Club, who presided, moved that they petition against the proposal. Mr. Charles Scott, Milsington, seconded, and the motion was unanimously agreed to. A petition was afterwards largely signed for presentation to the Lord Mayor of Newcastle on the subject.

ARMY VETERINARY SERVICE.

Extract from *London Gazette.*

WAR OFFICE, WHITEHALL, Feb. 11.

SPECIAL RESERVE OF OFFICERS.
ARMY VETERINARY CORPS.

D. R. Williamson to be Lieut. (on probation). Dated Feb. 12.

Personal.

Mr. J. T. CLINTON, M.R.C.V.S., Dundalk, has been appointed to the Commission of the Peace for the County of Louth.

Mr. ROBB, jun., M.R.C.V.S., Glasgow, has been appointed judge of horse-shoeing for the Paisley Show of the H. and A. S.

At the last general meeting of the Canterbury Farmers Club and East Kent Chamber of Agriculture Mr. R. L. Hetherington said he thought the Club ought to remember that the recent regulations with reference to the outbreak of foot-and-mouth disease, and the adoption of the zone treatment—whereby the radius was gradually reduced from fifteen to ten miles, and ten to five miles, and so on, was due to Mr. James Crowhurst. He thought the Club should thank him very much for the suggestion which he had made, and which they had found to work so well. (Applause). The vote was cordially endorsed.

There were three applications for the position of inspector of dairies, etc., in the Naas No. 1 Rural District from Messrs. W. T. M. Browne, V.S., Naas; Joseph Cosgrove, V.S., Kildare; and P. J. Shiel, V.S., Rathcoole.

Mr. Smyth proposed the election of Mr. Cosgrove. Mr. Corry seconded.

Mr. O'Neill proposed Mr. Shiel, and this was seconded by Mr. Tallon.

Mr. E. Doyle proposed, and Mr. Rourke seconded the election of Mr. Browne.

On a division there voted for Mr. Browne, 17; for Mr. Shiel, 17; for Mr. Cosgrove, 11. Mr. Cosgrove accordingly dropped out, and on a final division the voting was, for Mr. Browne, 24; for Mr. Shiel, 20. Mr. Browne was accordingly declared elected.—*The Kildare Observer.*

At a meeting of the Cawdor Cup Committee Mr. James Kilpatrick moved that the inspectors who officiated on Tuesday at the Stallion Show should be appointed, namely, Principal M'Call, and Messrs. Andrew Robb, senr., Glasgow, and David Imrie, Bishopbriggs. Mr. Wm. Kerr seconded.

Mr. James Weir proposed that the inspectors be as follows: Principal M'Call, and Messrs Wm. F. Houston, M.R.C.V.S., Paisley; and John Brown, F.R.C.V.S., Invergordon. Mr. John Findlay seconded,

On a vote being taken, Mr. Weir's motion was carried by a large majority, and the three gentlemen named were appointed.

We learn that the late Matt. Hedley, F.R.C.V.S., died from cancer of the liver: almost inevitably he suffered greatly, especially at the latter part of his illness.

The death of Mr. R. P. Paine, Shamrock Cottage, Burwash, Sussex, is announced, on Saturday, Feb. 8.

CORRESPONDENCE.

COURTESY *VERSUS* STUDY.

Sir,

A keen and fairly prosperous young country practitioner has recently asked us for candid advice *re* "taking some post graduate course." Advising the young is always a solemn undertaking, but we attempted to point out the difference between a course "taken" and a "study" of a particular subject. We gave our opinion that a "short course" is best likened to an American omnibus in which the fare is the same for any distance. The ticket, duly punched, is retained and bears a certain face value for some time after issue. On the 'bus route charming but sometimes elusive views are obtained of the India Office, 4 Whitehall Place, the War Office, and Colonial and South African Departments. On a very bright day some travellers claim to have seen county veterinary officers in motor cars on the horizon. This is doubtful...probably they were lay inspectors. The journey is beguiled with highly concentrated, condensed scientific dissertions on "all the diseases of the world in a moment of time." These have been known to produce violent mental indigestion ending in purgation by means of the sale of typewritten "notes" when a foothold has been obtained in one or other of the aforementioned desirable residences.

A long course we opined to be a more leisurely journey in a flatter country. The views are less fine and their addresses less authoritative. The "ticket" is retained and may be displayed on note paper to town councillors and others having municipal influence. Covering a limited area it is a dear ride.

Post-graduate "study" we strongly advised as virtuous and having its own reward. Our enthusiastic young friend has a good knowledge of German. We mentioned a disease of cattle occurring in his district, rare in other parts, briefly dismissed in "courses" and about which nothing is really known. We advised some correspondence with continental authors mentioned in the translations of continental text books, keeping notes of all cases, the collection of literature on allied subjects, and the devotion of the spare time of three or four years to the matter. Our recently fledged member here asked whether after all this, he would have any chance of getting one of the £150 per annum grants to qualified men. Would he be able to allow himself the luxury of a locum for twelve months while he was receiving sympathetic and disinterested assistance of the head of a good laboratory to whom his years of clinical experience and observation would be of some value. Or would these plums, as he seemed to fear, be reserved for brilliant students, course takers, medal grabbers, and assistants who should be good advertisements for this or that academic centre. We could not reply. Can your correspondents give an answer?

The first stone cast will be that our young friend has never been certified by the head of a College as being "capable of research." True, but he has on his own account published original papers receiving favourable criticism on the continent and in America, but above the heads or beneath the notice of English workers.

Unto them that are without, all these things are spoken of in parables.—We are, yours faithfully,

TWEEDLEDUM AND TWEEDLEDEE.